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Software Architecture Document

Version <1.0>

Revision History

Date	Version	Description	Author
<10/12/2022>	<1.0>	This document describes the process to construct the architecture of our school moodle web. Consisting of a database diagram, a package diagram, and a logical view diagram.	Seno Team

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Software Architecture Document

Introduction

In this document, we will describe the full architecture design of our School Moodle website. It consists of the use case model which is the diagram to describe the interaction between three users (Student, Administrator and Lecturer) and our system.

In the next section (Architecture Goals and Constraints), we will show some description about important information of our project such as: Scope, Goals, Constraints, Team Strucute, used tools and some strategies that we use to develop this project.

Use-cases model will represent all main use-cases which is important in our program.

Final Section (Logical View) will show all details components of the software.

Architectural Goals and Constraints

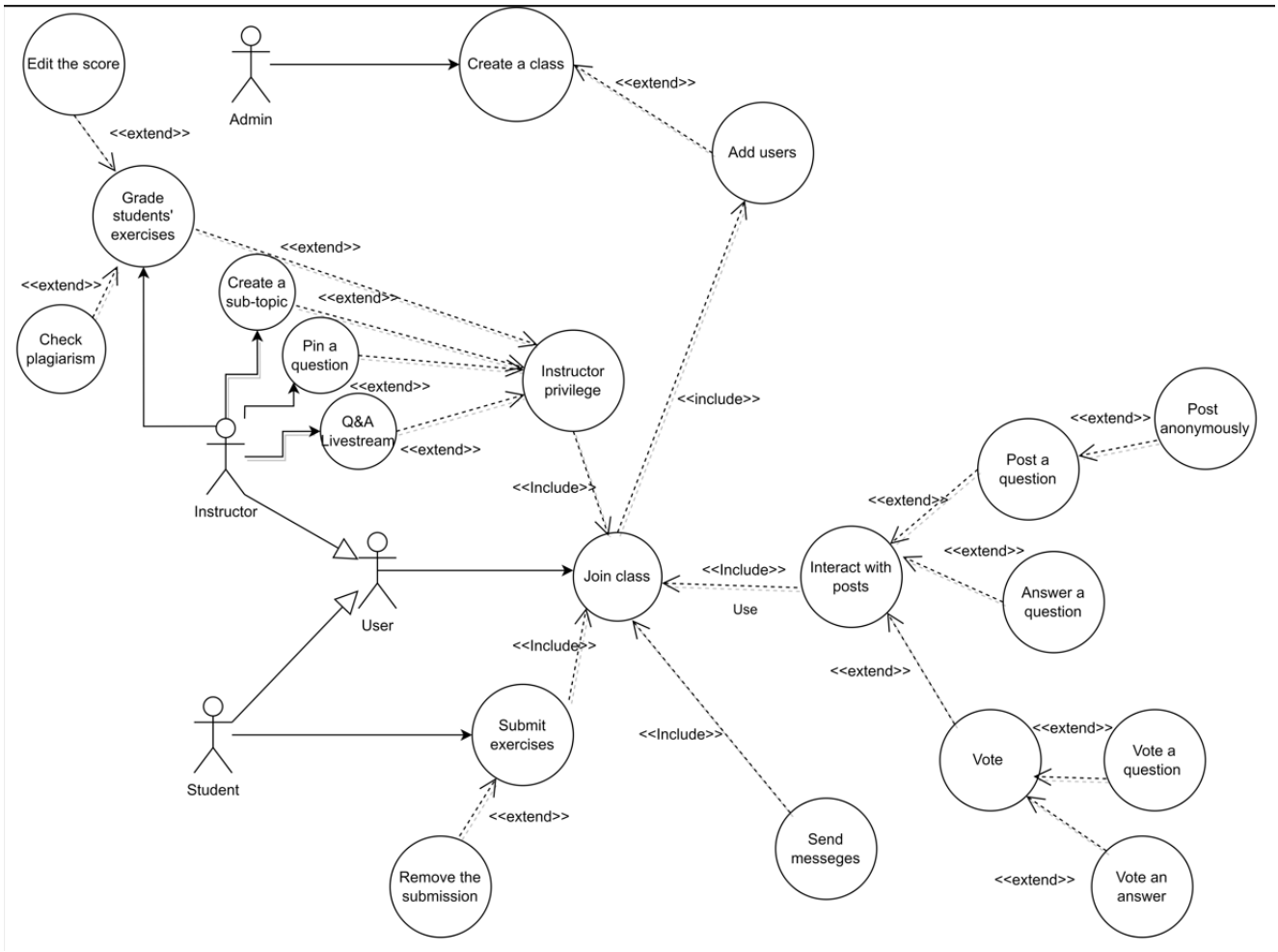
Main constraints:

- Safety: Our website has a very useful interface for the users, attractive UI design and very easy to use. When they access to our website, they can smoothly use some basic functions such as: clicking, scrolling and typing.
- Security: We will prevent attacks from all levels, make sure that our database cannot be changed by attacking outside. We also has backup server to recover all the data when our web is collapsed. We also have some prevention for basic web attacks: DDOS, SQL injection, Cross-site scripting,..
- Privacy: This is the most important. We will make sure that the privacy data of all users are not leaked and the users from our system cannot see any private information from other users.
- Design and implementation strategy: We will follow the RUP and SCRUM strategy to assign works for all members, try to maximize the performance of our program by helping the other teammates when they have some troubles.
- Statibility: Our server must be efficiency enough, especially in some wrost case where there are lots of users access to our website, all request must be responsed within one minute. When some task is completed, there must be some notifications to announce the user.

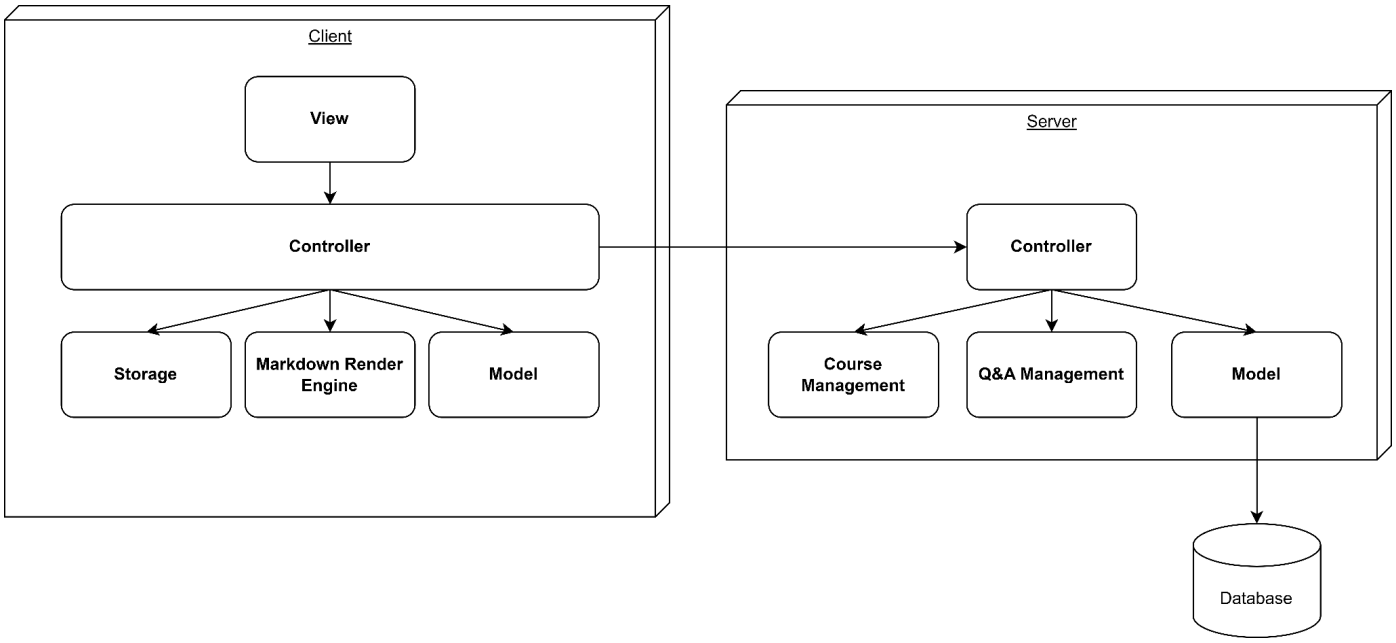
Development tools:

- We will use web draw.io to design the component diagram
- For designing the UI of our web, we will use Figma
- For designing the database diagram, we will use Microsoft SQL server 2019 to consturct the database diagram.
- We use visual.paradigm for designing the package diagram following the MVC architecture.
- We use Typescript, React, Fastify, Mongodb, Nest.js for our development.

Use-Case Model



Logical View



Component: Client

- Framework: NextJS
- Provide a user interface to interact with the server.

Component: Server

- Framework: NestJS
- Update the database according to request from clients.

Component: Database

- Using MongoDB

Deployment

[Leave this section blank for PA3.]

Implementation View

[Leave this section blank for PA3.]